Claims

1. A method of shutting down and restarting an internal combustion engine, comprising:

positioning the engine into a predetermined rest position wherein said predetermined rest position is a position at which the average motoring torque is decreasing during the first phase of the restart.

2. The method of claim 1 wherein the engine is positioned to said predetermined rest position shortly after engine shutdown.

3. The method of claim 1 wherein the engine is positioned to said predetermined rest position while the engine is at a warmed up temperature.

4. The method of claim 1 wherein said predetermined rest position is selected such that an average motoring torque to reach a predetermined engine speed is at its minimum during the first phase of the restart.

5. The method of claim 1, further comprising: measuring motoring torque.

6. The method of claim 1, further comprising: measuring crank angle position of the engine.

7. A system for shutting down and restarting and internal combustion engine, comprising: means for stopping an internal combustion engine in a predetermined rest position wherein said predetermined rest position is a position at

which the torque is decreasing during the first phase of the restart.

8. The system of claim 7, further comprising: an integrated starter generator coupled to the engine, said integrated starter generator.

9. The system of claim 7, further comprising: a crank angle sensor providing a signal indicative of engine rotational position.

10. The system of claim 7, further comprising: a torque sensor coupled to the engine.

11. The system of claim 7, further comprising: a locking mechanism for locking the internal combustion engine in said predetermined rest position.

12. The system of claim 7, further comprising: a torque measuring device coupled to the engine.

13. The system of claim 7, further comprising: a crank angle position sensor coupled to the engine.